

Amendments to the Abstract

Please replace the Abstract with the following paragraph:

"Abstract

Methods for the production of purified, catalytically active, recombinant memapsin 2 have been developed. The substrate and subsite specificity of the catalytically active enzyme have been determined and were used to design substrate analogs of the natural -2 substrate that can inhibit the function of memapsin 2. Processes for the synthesis of two substrate analogues including isosteres at the sites of the critical amino acid residues were developed and the substrate analogues, OMR99-1 and OM99-2, were synthesized. The inhibition constant of OM99-2 is 1.6×10^{-9} M against recombinant pro-memapsin 2. Crystallography of memapsin 2 bound to this inhibitor was used to determine the three dimensional structure of the protein, and the importance of the various residues in binding. This information is useful for designing new inhibitors to memapsin 2, for diagnosing and treating and/or preventing Alzheimer's disease."